

Vancouver Rail Project

NEPA/SEPA
Final Environmental
Impact Statement

Executive Summary

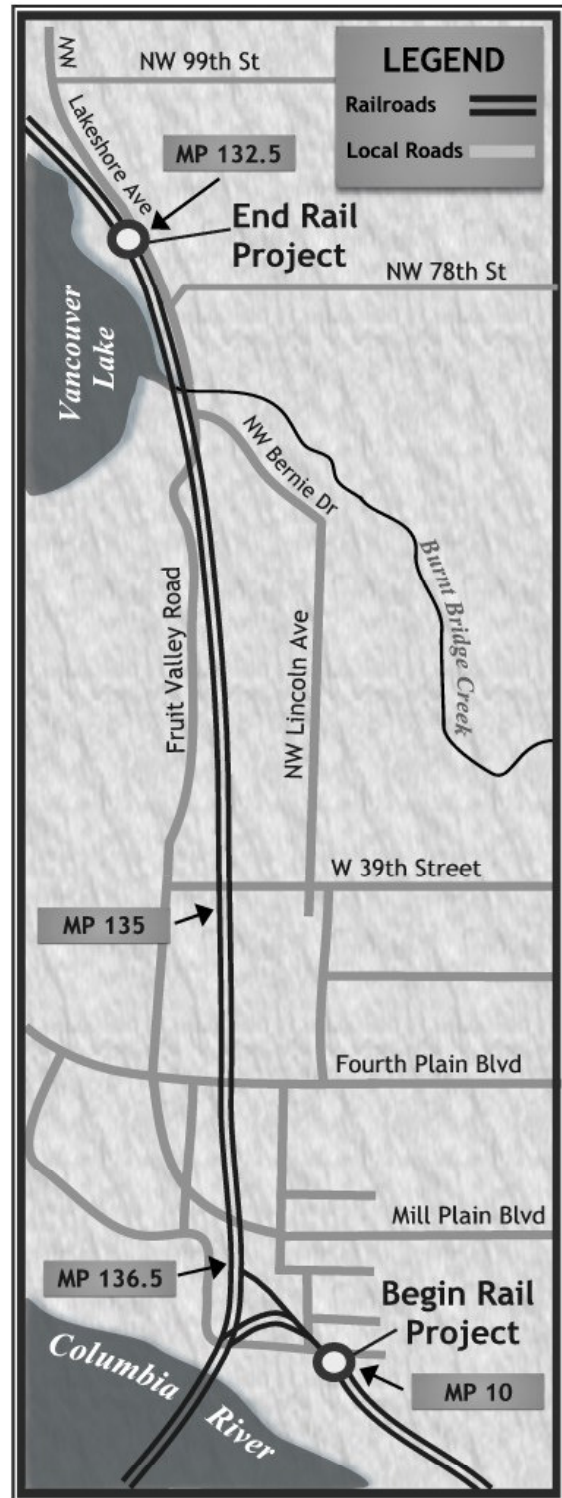
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U. S. Department of Transportation
Federal Highway Administration



**Washington State
Department of Transportation**





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Executive Summary

Washington State is incrementally upgrading its Amtrak *Cascades* intercity passenger rail service along the Pacific Northwest Rail Corridor (PNWRC) in western Washington.

The State's goal is to provide faster, safer, more frequent, and more reliable passenger rail service. The State's vision for passenger rail in the Pacific Northwest extends over a twenty-year horizon. Service is being increased over time based on market demand, available partners, and legislative funding. More information regarding the PNWRC Program can be found in the Amtrak *Cascades* Plan for Washington State 1998 – 2018 Update, April 2000.

Exhibit 1 presents the rail corridor and station locations for Amtrak *Cascades* intercity passenger rail.

How did the Amtrak *Cascades* program begin?

The vision of reduced travel times and better intercity passenger rail service in the Pacific Northwest began in the late 1980s when the Washington State legislature funded a program to improve rail depots across the state. In 1991, the legislature directed¹ the Washington State Department of Transportation (WSDOT) to develop a comprehensive assessment of the feasibility of developing a high-speed ground transportation system in the state of Washington.

Also in the early 1990s, the Federal Railroad Administration designated the Pacific Northwest Rail Corridor one of five high-speed rail corridors in the United States. In April 1993, the state legislature directed² WSDOT to develop "high-quality intercity



**Amtrak *Cascades*'
Service Corridor and
Station Locations
Exhibit 1**

¹Substitute House Bill 1452

²Revised Code of Washington 47.79

passenger rail service ... through incremental upgrading of the existing [Amtrak] service.”

How has WSDOT responded to its legislative directive?

A number of projects along the corridor have already been implemented. Completed



Amtrak Cascades Talgo trainset

projects include track improvements between Portland and Vancouver, British Columbia (BC), expanded and re-instated service, and station improvements and renovations throughout the corridor.

In addition, the Amtrak *Cascades* service was introduced in 1999. This new service features new trains built by Talgo, Inc. and upgraded customer amenities.

WSDOT, working in cooperation with the state of Oregon, Amtrak, and The Burlington Northern and Santa Fe Railway Company, has committed more than \$350 million towards implementation of near-term (within the next five years) improvements to the overall rail system. To date, more than \$125 million has been committed by the state of Washington. Through cooperation with Amtrak, railroads and others, another \$325 million has also been invested.

WSDOT works with partners to identify physical improvements that are necessary, not only to increase intercity passenger rail service, but also to ensure that the existing passenger service remains reliable and safe. The **Vancouver Rail Project** has been identified as one of these improvements.

Where is the Vancouver Rail Project located?

The project is located in southwestern Clark County within the City of Vancouver (see **Exhibit 2**). It extends from approximately rail mileposts 132.5 to 136.5 on The Burlington Northern and Santa Fe Railway Company's (BNSF) Seattle to Portland main line and in the vicinity of rail milepost 10.02 on the BNSF Vancouver, WA to Spokane main line. The surrounding study area is comprised of various residential neighborhoods, agricultural lands, and industrial facilities. **Exhibit 3** presents the general study area for the **Vancouver Rail Project**.



**General Vicinity Map and Project Area
Exhibit 2**

What is the purpose of the Vancouver Rail Project?

The purpose of the **Vancouver Rail Project** is to provide reliable and safe passenger rail service without degrading freight operations. Since current freight operations result in passenger train delays, the first step towards increasing service reliability is to eliminate as many conflicts between passenger and freight trains as possible – without degrading current and future freight operations. Eliminating pedestrian and vehicular traffic across the railroad tracks would provide a safer environment for rail passengers as well as pedestrians and motorists.

Freight trains often stack up in the Vancouver rail yard area and block movement of the faster moving passenger trains. Schedule reliability of the passenger trains is often compromised. By simply clearing up some of the congestion in and around the rail yard, passenger train reliability (schedule adherence) would increase and potential vehicular (or pedestrian)/train conflicts would decrease.

Why do we need the Vancouver Rail Project?

The Vancouver rail yard is located at the junction of two main line routes that travel north-south (Seattle-Portland line) and east-west (Vancouver, WA-Spokane line). In addition, it is located just north of the Columbia River. Due to its strategic location, delays and conflicts are common in and around the rail yard, thus threatening the reliability of passenger rail trains. Data provided by BNSF³ indicate that a passenger train can be delayed in or around the Vancouver rail yard from two to 22 minutes per day during an average week, with a daily average of about ten minutes delay to passenger trains.

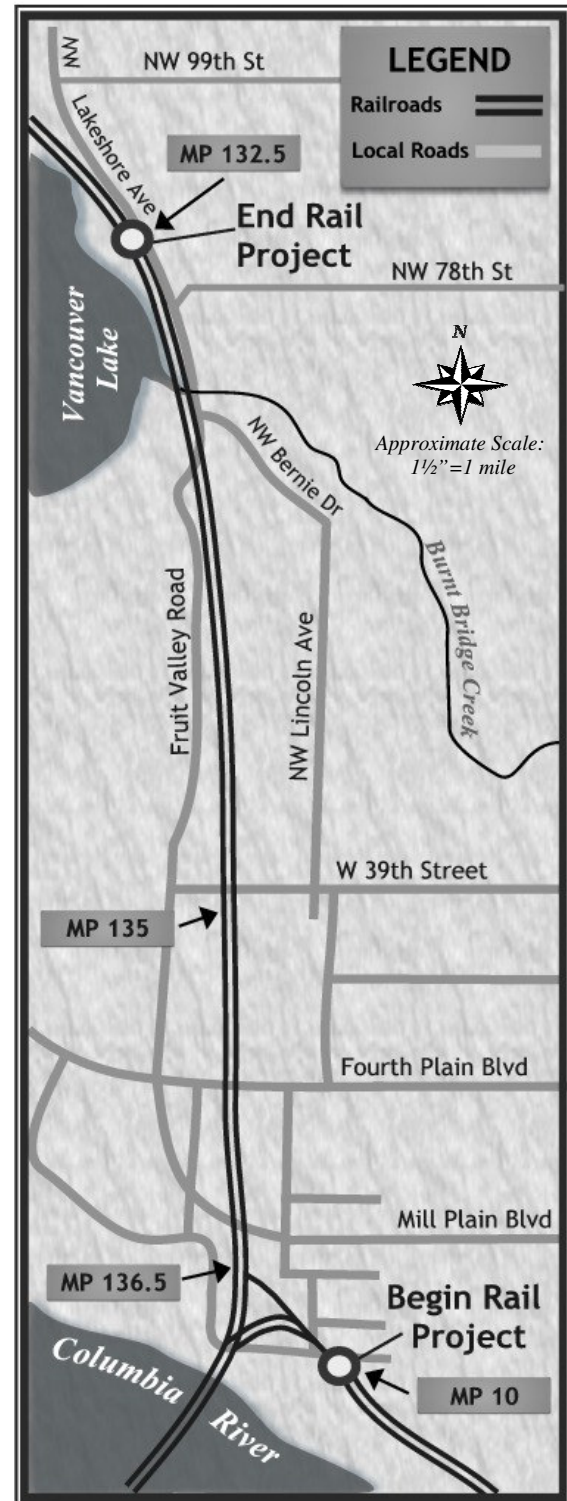
³Information provided in August 2000.

The **Vancouver Rail Project** is needed to eliminate conflicts that contribute to this decrease in reliability and safety, while assuring that freight operations are not hampered. Four specific areas of conflict need to be resolved: crew changes; bridge openings; yard activities; and grade crossings.

Did the community participate in this EIS process?

As part of the early development process, the project team met with City of Vancouver Transportation and Planning staff to discuss the scope of the traffic analysis (prepared for this EIS), as well as potential alternatives for West 39th Street. At the suggestion of City of Vancouver representatives, a community team was established for this project. For an eight month period beginning in January 2000, a Vancouver Community Resource Team (CRT) worked with the project team to develop additional alternatives. The CRT consisted of representatives from the City of Vancouver Planning Department, Fire Department and Police Department; the Regional Transportation Council; the Vancouver School District, the Vancouver Housing Authority, neighborhood groups; the Port of Vancouver; and other regional and local agencies/ groups. Working with the project team, the CRT helped establish a fatal flaw evaluation methodology to identify alternatives for study in this environmental document. Using

**Vancouver Rail Project
General Study Area
Exhibit 3**



the project's purpose and need as a foundation for fatal flaw review, the CRT and project team evaluated a number of preliminary alternatives.

On March 6, 2002, following release of the Draft Environmental Impact Statement, a public hearing was held. Twenty eight community members and agency representatives attended this public hearing.

During the course of the public hearing, twelve individuals made a public statement. In addition to these verbal comments, numerous residents and interested citizens e-mailed or mailed in their comments on the **Vancouver Rail Project**. In total, 63 written comments were received. Of these comments, eleven were from local, regional, state and federal agencies.

These comments, and the project team's response to them, are presented in **Appendices G and H** of the Final Environmental Impact Statement. Throughout this document, information has been updated to reflect these concerns and comments.



Community Resource Team (CRT) members evaluating alternatives

What alternatives were analyzed in this EIS?

The Community Resource Team (CRT) recommended six build alternatives for further study in this Environmental Impact Statement (EIS). The project team combined these six alternatives into two alternatives with three options each. These alternatives (except the No Action Alternative) include construction of a rail bypass and associated improvements as well as elimination of the West 39th Street at-grade crossing.



The Burlington Northern and Santa Fe Railway Company's Vancouver Rail Yard

Alternative B: Easterly Bypass Alignment

This build alternative consists of the construction of a double track rail yard bypass east of the existing BNSF tracks. In addition, several siding tracks in the north end of the existing yard would be lengthened.

The alignment begins at approximately rail milepost 132.5 near Burnt Bridge Creek. The current Northern Pacific (NP) siding, located west of the double track main line would be restored in

this area. Along the entire alignment, to approximately rail milepost 135, the NP siding would either be rehabilitated or new track would be built. In addition, various turnouts would be constructed, while some existing turnouts would be removed. Retaining walls and fill would also be incorporated throughout this alignment. At about rail milepost 133.5, on the eastern side of the rail line, the bypass tracks would begin. The two tracks would be designed with a minimum 25-foot track center. For the length of the double track bypass, the width of the two bypass tracks would be a minimum of 53-feet wide (without accounting for retaining walls, fills, and safety clearances).

The new double track bypass would leave the main line and travel southeast to approximately West 39th Street. At this point it would be approximately 625 feet from the closest existing BNSF track. The bypass alignment would continue south along the western edge of the new Columbia Crest subdivision property line. As the bypass alignment turns west, towards the existing rail line, it would cross Columbia Crest's southern cul-de-sac. This alignment would require relocation of the cul-de-sac just east of its existing location. The bypass alignment would move parallel to the existing tracks at approximately rail milepost 135.5. It would continue south, under Fourth Plain Boulevard and Mill Plain Boulevard, until about Jefferson Street, where it again would travel east to join the existing Vancouver-Spokane main line. The at-grade crossing at Jefferson Street, between 8th Street and Evergreen Boulevard would be eliminated to allow for more efficient and safer rail operations. **Exhibit 4** shows the general location of this alternative and its options.

What are the options for the West 39th Street grade crossing?

Introduction of two new tracks crossing West 39th Street would increase the potential safety risks associated with this roadway. As such, three potential options have been developed for the treatment of the West 39th Street grade crossing.

Option 1: Vehicular Overpass

The West 39th Street at-grade crossing would be reconstructed as a vehicular bridge over the rail tracks and yard. The overpass would provide continued access for trucks and automobiles. A bicycle lane and sidewalk, on each side of the roadway, would also be included.

The overpass would be built over the existing rail yard with a minimum of a 24-foot clearance. The bridge structure would be approximately 800-feet long. The facility would be built to meet ADA⁴ requirements.

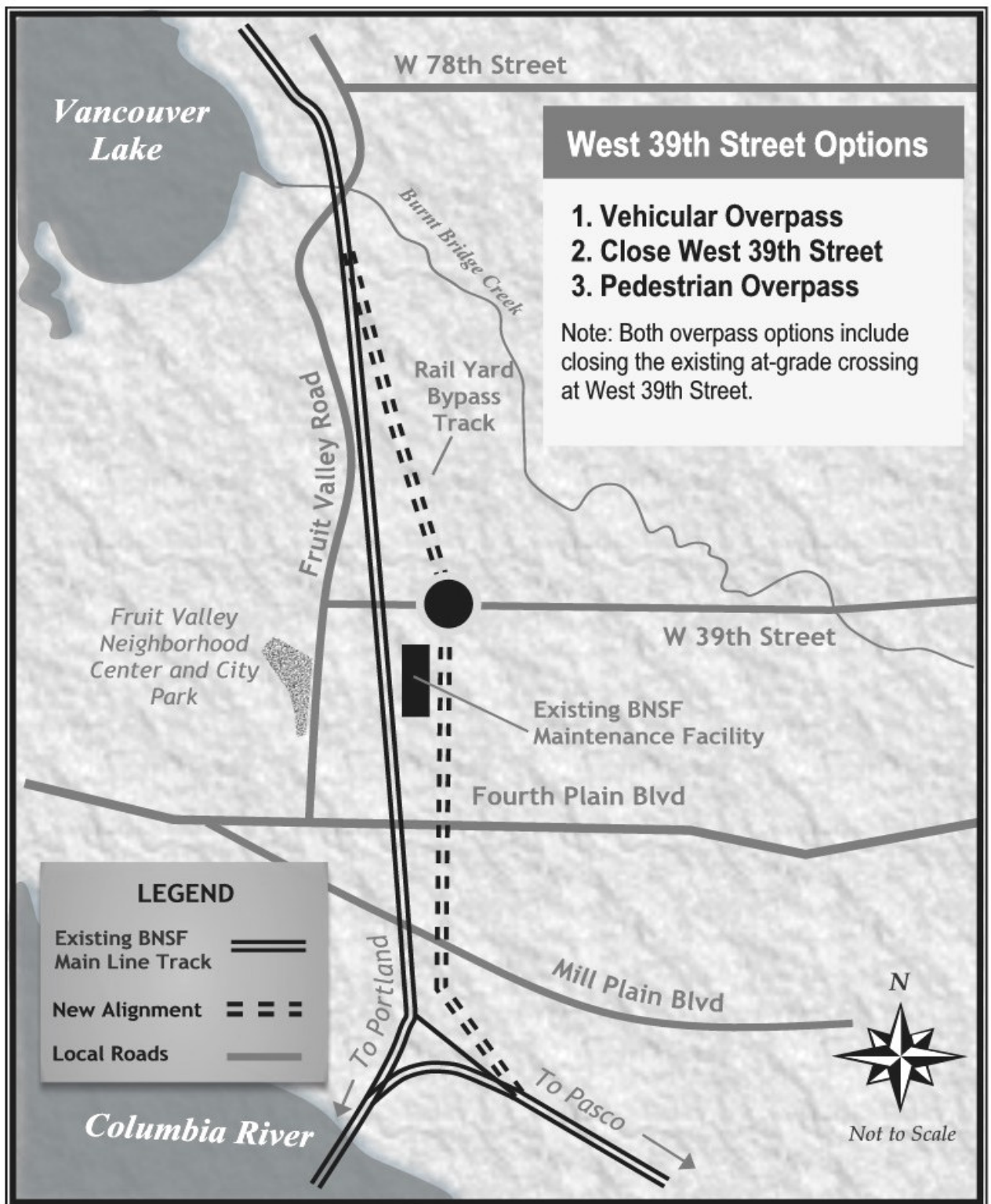
Option 2: Close the at-grade crossing

The West 39th Street at-grade crossing would be closed. Cul-de-sacs would be constructed just east and west of the rail line at West 39th Street. This closure would eliminate all vehicular, pedestrian, and bicycle crossings at this location.

⁴Americans with Disabilities Act

Option 3: Pedestrian/Bicycle Overpass

The West 39th Street at-grade crossing would be closed and a pedestrian/bicycle bridge would be built in this location. Vehicular traffic would be re-routed to surrounding arterials.



Alternative B and Options
Exhibit 4

Entrance to the overpass, on the eastern side of the rail yard, would be at-grade. Entrance on the west side of the rail yard would entail construction of a spiral ramp (or stairway) tower. The center of the western tower would provide additional room or a large elevator. The ramps and the elevator would meet all ADA requirements. The overpass would be built over the existing rail yard with a minimum of a 24-foot clearance. The bridge structure would be approximately 800-feet long.

Alternative I: Westerly Bypass Alignment

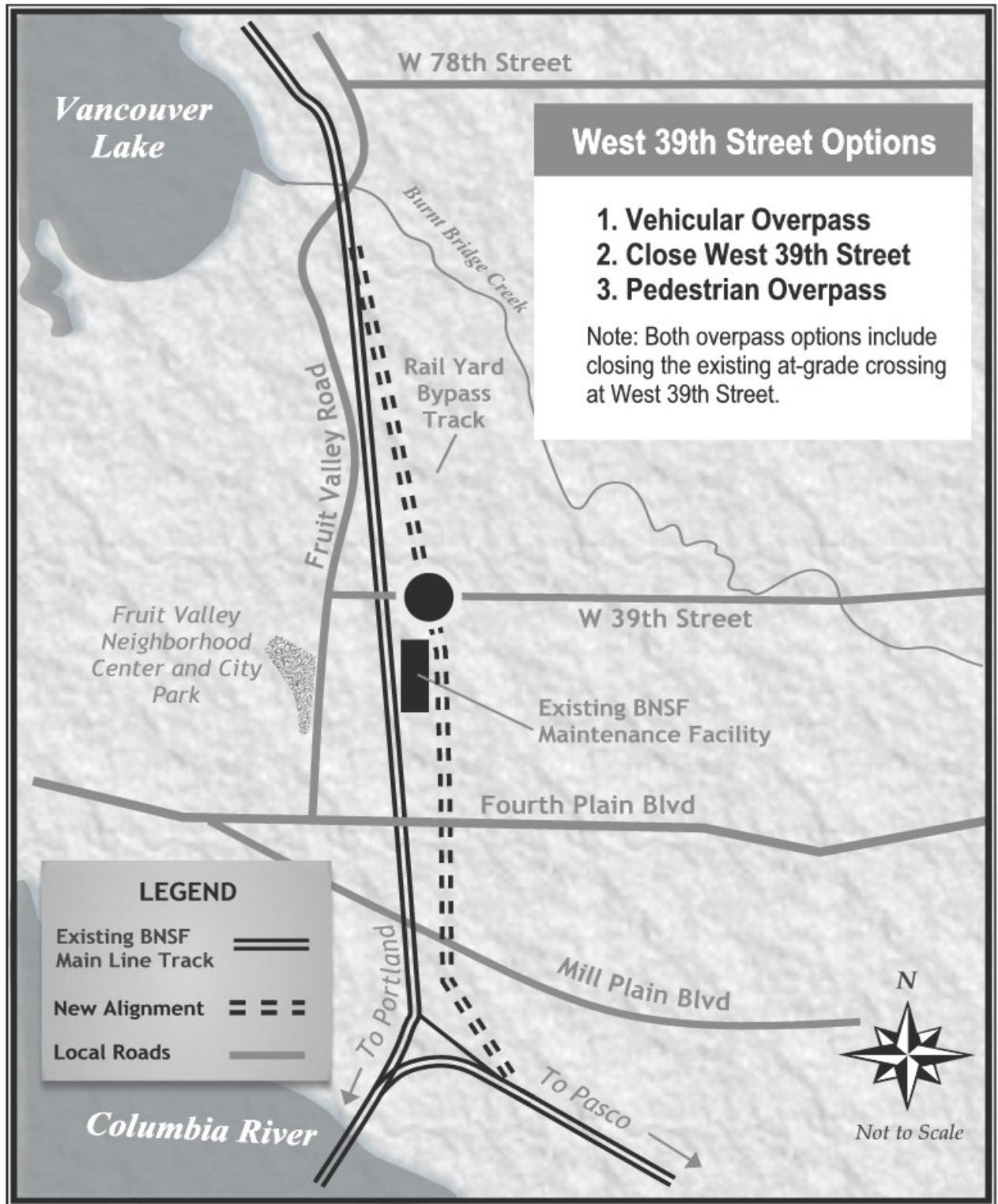
This build alternative would consist of the construction of a double track rail yard bypass east of the existing BNSF tracks, but closer to the existing tracks than Alternative B. In addition, several yard tracks in the north end of the existing yard would be lengthened.

The alignment would begin at approximately milepost 132.5 near Burnt Bridge Creek. The current NP siding, located west of the double track main line would be restored in this area. Along the entire alignment, to approximately milepost 135, the NP siding would either be rehabilitated or re-built. In addition, various turnouts would be constructed, while some existing turnouts would be removed. Retaining walls and fill would also be incorporated throughout this alignment. At about milepost 133.5, on the eastern side of the rail line, the bypass tracks would begin. The two tracks would be designed with a minimum 25-foot track center. For the length of the double track bypass, the width of the two bypass tracks would be a minimum of 53-feet wide (without accounting for retaining walls, fills, and safety clearances).

The new double track bypass would leave the main line and travel southeast to approximately West 39th Street. At this point it would be approximately 450 feet from the closest existing BNSF track. As the alignment continues southeast, the project would require the relocation of the BNSF rail yard turntable as well as some minor maintenance buildings. These facilities would be relocated elsewhere within the BNSF rail yard. The bypass alignment would continue southeast towards the new Columbia Crest subdivision property line. As the bypass alignment turns west, towards the existing rail line, it would cross Columbia Crest's southern cul-de-sac. This cul-de-sac would need to be relocated just east of its existing location. The bypass alignment would travel parallel to the existing tracks at approximately milepost 135.5. It would continue south, under Fourth Plain Boulevard and Mill Plain Boulevard, until about Jefferson Street, where it would again move east to join the existing Vancouver-Spokane main line. Jefferson Street, between 8th Street and Evergreen Boulevard would be closed. **Exhibit 5** shows the general location of Alternative I and its options.

What are the options for the West 39th Street grade crossing?

West 39th Street options for Alternative I are the same as options presented for Alternative B. **Exhibit 6** presents a summary of the design elements associated with each alternative and its options.



Alternative I and Options
Exhibit 5

Summary and Comparison of Alternatives: Design Elements and Characteristics
Exhibit 6

ALTERNATIVE	ESTIMATED CAPITAL COST FOR THE BYPASS AND STRUCTURE*	BRIDGE STRUCTURE* LENGTH	OVERALL STRUCTURE* WIDTH
Alternative A: No Action	Note #1	N/A	N/A
Alternative B: Easterly Bypass			
Option 1: Vehicular Overpass, Eliminate at-grade crossing	\$55 million	850 feet	50 feet
Option 2: Close West 39 th Street	\$47 million	N/A	N/A
Option 3: Pedestrian/Bicycle Overpass, Eliminate at-grade crossing	\$49 million	800 feet	12 feet
Alternative I: Westerly Bypass			
Option 1: Vehicular Overpass, Eliminate at-grade crossing	\$57 million	640 feet	50 feet
Option 2: Close West 39 th Street	\$50 million	N/A	N/A
Option 3: Pedestrian/Bicycle Overpass, Eliminate at-grade crossing	\$52 million	590 feet	12 feet

*At West 39th Street

Note #1: Although a "project" would not be built under the No Action Alternative, costs of not doing anything should not be ignored. Under the No Action Alternative, passenger rail service between Seattle and Portland would continue to be delayed. Additional round-trip service could not be added. In addition, freight traffic would continue to idle in the Vancouver rail yard, contributing to air and noise quality impacts. Traffic increases at West 39th Street would result in lost time, and potential accidents. These costs, while not direct costs of a construction project, are external costs of not doing anything. For more information about external costs, please refer to the Pacific Northwest Rail Corridor Economic Analysis, Washington State Department of Transportation, September 1998.

What would happen if nothing were built?

Alternative A, the No Action Alternative, addresses this issue. This alternative would not make any changes to the existing rail infrastructure beyond those planned by The Burlington Northern and Santa Fe Railway Company (BNSF). Because BNSF is a private company, it is difficult to speculate what future infrastructure changes may be proposed for the Vancouver yard. It could be assumed, however, that general track and yard maintenance would continue for freight operations.

Based on BNSF projections, freight traffic is expected to grow by as much as five percent annually. Using this growth estimate, freight traffic would grow from 100 trains per day to 279 trains per day by the year 2020. This growth would happen regardless of whether the **Vancouver Rail Project** was implemented.

Assuming no new infrastructure or radical changes to the Vancouver yard area, it is likely that West 39th Street would remain open. The current seven-track crossing would remain in place, however, the number of freight trains crossing and blocking this roadway would increase by 179 percent in the next twenty years. Traffic and delay projections indicate that the West 39th Street at-grade crossing could potentially be closed (due to freight train delay) fifteen to twenty hours per day. Vehicular traffic is also expected to increase at West 39th Street by up to 83 percent.

As such, the No Action Alternative does not resolve the safety issues with the West 39th Street grade crossing and could potentially lead to an increased number of train-vehicle accidents.

Implementation of the No Action Alternative would also compromise the future of passenger rail service along the Pacific Northwest Rail Corridor. With no improvement in the Vancouver rail yard area, freight trains would continue to block the main line. By the year 2020, movement through the yard for passenger trains would virtually be impossible. Schedule reliability of passenger rail service would be severely compromised.

Exhibit 7 presents an overview of current and future conditions as they relate to the No Action Alternative. In addition, this alternative (baseline) is compared to the two build alternatives (and their options).

How were these alternatives compared?

The feasibility of a project and its implementation often depends on whether it will have impacts on the communities that it is intended to serve, or if construction of its components will impact the surrounding natural environment.

In order to determine which alternative (and its options) would have the least impact on the community and the natural environment, a number of environmental and community resources were reviewed for this environmental analysis.

Following collection of baseline environmental and community information (also known as affected environment), an impacts analysis was performed. An impacts analysis typically overlays each proposed alternative (including a no action alternative) upon the existing conditions findings. Based on this “overlay”,

Train and Vehicular Comparison of Alternatives
Exhibit 7

	ALTERNATIVE A			ALTERNATIVES B (EASTERLY BYPASS) AND I (WESTERLY BYPASS)					
	No Action			Vehicular Overpass		Pedestrian Overpass		Closure of West 39th Street	
	1999	2020	Change	2020	Change ⁱ	2020	Change ⁱⁱ	2020	Change ⁱⁱⁱ
RAIL SYSTEM									
Freight Trains (daily)^{iv}	100	279	179	279	179	279	179	279	179 (179%)
Amtrak Cascades Passenger Trains (each way, daily)	6	6	0	6	0	6	0	6	0
ROAD SYSTEM									
West 39th Street PM Peak^v									
Eastbound	117	214	97	343	129	0	-214	0	-214
Westbound	87	109	22	125	16	0	-109	0	-109
Fourth Plain Road PM Peak									
Eastbound	738	953	215	902	-51	1034	81	1034	81
Westbound	487	385	-102	374	-11	433	48	433	48
Average Daily Delay at West 39th Street (in hours)									
	8	15-20	7-12	0	0	NA	NA	NA	NA
Tracks crossing West 39th Street									
	7	7	0	9	2	9	2	9	2

ⁱCompared with the No Action alternative for year 2020.

ⁱⁱCompared with the No Action alternative for year 2020.

ⁱⁱⁱCompared with the No Action alternative for year 2020.

^{iv}Estimated. Based on 100 trains per day in 1999 with a 5% annual increase. Year 1999 data provided by WSDOT Rail Office.

^vTraffic data are estimated based on existing turning movement counts. Source: Revised Draft Report West 39th Street Rail Crossing Transportation Analysis, David Evans and Associates. April 14, 2000.

potential impacts to the physical and sociological elements of the study area can be identified. For certain resources, more technical analyses were performed.

Potential impacts resulting from the **Vancouver Rail Project** alternatives were quantified, as appropriate. A comparison of impacts for each alternative and its option is presented in **Exhibit 8**.

What is the preferred alternative?

Working together with the Vancouver community and local agencies, the Washington State Department of Transportation has identified Alternative I, Option 1 (Westerly Bypass with Vehicular Overpass) as the preferred alternative. This alternative was chosen after the project team carefully reviewed the environmental and community impacts of all alternatives. Public comments were also incorporated into the decision-making process.

What are the next steps in this environmental process?

Following circulation of this Final Environmental Impact Statement, the U.S. Federal Highway Administration will identify a “selected alternative”. If the selected alternative is the preferred alternative, the selected alternative will advance to design and permitting following circulation of a Record of Decision.⁵ Mitigation measures identified in this Environmental Impact Statement and in permit conditions will be incorporated into the design of the selected alternative.

⁵ A Record of Decision (ROD) is the final public document released by FHWA stating their decision of a selected alternative.

Summary of Impacts by Alternative
Exhibit 8

RESOURCE GROUP (DISCIPLINE REPORTS)	ALTERNATIVE A	ALTERNATIVE B (EASTERLY BYPASS)			ALTERNATIVE I (WESTERLY BYPASS)		
	No Action	Option 1 Vehicle Overpass	Option 2 Pedestrian Overpass	Option 3 Close At-Grade Crossing	Option 1 Vehicle Overpass	Option 2 Pedestrian Overpass	Option 3 Close At-Grade Crossing
Soils and Geology (Soils & Geology)	No impact	Cut and fill adjacent to existing slopes could create ground instability	Same as Option 1	Same as Option 1	Cut and fill adjacent to existing slopes could create ground instability	Same as Option 1	Same as Option 1
Air (Air Quality)	-Increased vehicle emissions associated with delays -Continued train idling and associated emissions	Decreased train emissions due to decreased idling	-Same as Option 1 -Increased vehicular emissions on other roadways	Same as Option 2	Decreased train emissions due to decreased idling	-Same as Option 1 -Increased vehicular emissions on other roadways	Same as Option 2
Water (Water Quality, Hydrology, Floodplains)	No impacts	Slightly increased stormwater volumes	No impacts	Same as Option 1	Slightly increased stormwater volumes	No impacts	Same as Option 1
Plants and Animals (Fisheries, Wetlands, Vegetation & Wildlife)	No impact	-Loss of 6.27 acres of woody vegetation	Same as Option 1	Same as Option 1	-Loss of 5.27 acres of woody vegetation	Same as Option 1	Same as Option 1
Energy (Energy)	Fuel consumption tied to train idling will continue	Fuel consumption tied to train idling will decrease	Same as Option 1	Same as Option 1	Fuel consumption tied to train idling will decrease	Same as Option 1	Same as Option 1

Continued on next page

Summary of Impacts by Alternative
Exhibit 8 - Continued

RESOURCE GROUP (DISCIPLINE REPORTS)	ALTERNATIVE A	ALTERNATIVE B (EASTERLY BYPASS)			ALTERNATIVE I (WESTERLY BYPASS)		
	No Action	Option 1 Vehicle Overpass	Option 2 Pedestrian Overpass	Option 3 Close At-Grade Crossing	Option 1 Vehicle Overpass	Option 2 Pedestrian Overpass	Option 3 Close At-Grade Crossing
Environmental Health (Hazardous Materials, Noise & Vibration)	Noise from idling and train horns would continue	Columbia Crest development may experience increased noise An historic structure located on NW 69 th Circle may experience noise and vibration impacts	Same as Option 1	Same as Option 1	Columbia Crest development may experience increased noise An historic structure located on NW 69 th Circle may experience noise and vibration impacts	Same as Option 1	Same as Option 1
Land Use (Historic, Cultural & Archeological; Environmental Justice; Land Use; Relocation; Social Elements; Visual Quality)	-Continued safety concerns at West 39 th Street -Continued passenger train delays	-New access for emergency vehicles -Safer access to recreational facilities -Decreased risk of accidents -An historic resource may be adversely affected -As many as 31 parcels may be disrupted or relocated	-Decreased risk of accidents -Perceived isolation by the community -An historic resource may be adversely affected	-Safer access to recreational facilities -Decreased risk of accidents -An historic resource may be adversely affected -As many as 26 parcels may be disrupted or relocated	-New access for emergency vehicles -Safer access to recreational facilities -Decreased risk of accidents -An historic resource may be adversely affected -As many as 31 parcels may be disrupted or relocated	-Safer access to recreational facilities -Decreased risk of accidents -An historic resource may be adversely affected	-Safer access to recreational facilities -Decreased risk of accidents -An historic resource may be adversely affected -As many as 26 parcels may be disrupted or relocated